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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------|------------------|
| 09/939,591 | 08/28/2001 | Yoshihisa Kiyotaki | NIP-239 | 3265 |
| 7590 | 01/25/2005 | | EXAMINER | |
| MATTINGLY, STANGER & MALUR, INC. ATTORNEYS AT LAW SUITE 370 1800 DIAGONAL ROAD ALEXANDRIA, VA 22314 | | | SHEEHAN, JOHN P | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1742 | |
| | | | DATE MAILED: 01/25/2005 | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/939,591 | KIYOTOKI ET AL. |
| | Examiner | Art Unit |
| | John P. Sheehan | 1742 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 21-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 21-38 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. ____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date November 22, 2004.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - I. The specification at page 2, lines 6, 10, 11 and 12 refers to claims 15, 16, 17 and 20 respectively. It is not proper to refer to the claims in the specification in that the claims may be amended and/or renumbered during prosecution.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
2. Claims 23 to 26, 29 to 32 and 35 to 38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
 - I. The claim limitation, "wherein the grain size of said eutectic carbide is 30 μm or smaller", with respect to the Ni and Fe base alloys recited in claims 23 to 26, 29 to 32 and 35 to 38 does not find support in the specification as filed.

II. The claim limitation, "wherein the grain size of said eutectic carbide is 30 μm or smaller" (emphasis added by the Examiner), with respect to the Co base alloys recited in claims 21, 22, 27, 28, 33 and 34 does not find support in the specification as filed. In view of the terminology, "is 30 μm ", this claim language includes grains having a size equal to 30 μm . However, on page 25, lines 20 and 21 of the specification, the grain size for cobalt base alloys is disclosed as "less than 30 micrometers" that is, the specification while supporting grain sizes of less than 30 μm does not support grain sizes equal to 30 μm .

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 25, 26, 31, 32, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohriner et al. (Ohriner, US Patent No. 4,803,045).

Ohriner teaches an iron based hard facing alloy having excellent wear resistance (column 2, lines 5 to 10), a composition that overlaps the alloy composition recited in instant claims (column 2, lines 40 to 51) and which contains eutectic carbides (column 2, lines 35 to 36 and column 4, lines 45 to 47) as recited in applicants' claims. Ohriner teach specific example alloys that are encompassed by the alloy composition recited in applicants' claims (column 3, the table, Heats B1, 6995, 6961A, 6998, 6983A, 6961B,

70226B and 7030) each having hardness values that are also encompassed by the hardness values recited in the instant claims (columns 5 and 6, Tables 1 and 2).

The claims and Ohriner differ in that Ohriner does not teach the process steps recited in applicants' claims and is silent with respect to the coefficient of friction of the disclosed alloys and the microstructure of the carbides.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the specific example alloy compositions taught by Ohriner are encompassed by the instant claims. In view of this, Ohriner's alloys would be expected to posses all the same properties as recited in the instant claims including the coefficient of friction and the microstructure of the carbides recited in the instant claims, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' *In re Spada*, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01

With respect to the process steps recited in the claims it is the Examiner's position that, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the process limitations recited in the instant product by process claims do not necessarily lend patentability to the claimed product, MPEP 2113.

Further, with respect to claims 37 and 38 it is the Examiner's position that these claims which recite that the claimed alloy is joined with a base metal encompasses the hard facing utility taught by Ohriner.

3. Claims 21, 22, 27, 28, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (Nakamura, US Patent No. 4,789,412, cited by applicants' in the IDS submitted February 28, 2002).

Nakamura teaches specific examples of cobalt alloys that are encompassed by the alloy composition recited in applicants' claims (columns 7 and 8, the Table, ally Nos. 1 to 17). Nakamura teaches that the disclosed alloy contains eutectic carbides (column 2, line 55). Nakamura teaches that the disclosed alloy has utility as a nozzle of a gas turbine (column 1, lines 10 to 12).

The claims and Nakamura differ in that Nakamura does not teach the process steps recited in applicants' claims and is silent with respect to the coefficient of friction, microstructure of the carbides and hardness of the disclosed alloys.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the specific example alloy compositions taught by Nakamura are encompassed by the instant claims. In view of this, Nakamura's alloys would be expected to posses all the same properties as recited in the instant claims including the coefficient of friction, microstructure of the carbides and hardness recited in the instant claims, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical

or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' *In re Spada*, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

With respect to the process steps recited in the claims it is the Examiner's position that, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the process limitations recited in the instant product by process claims do not necessarily lend patentability to the claimed product, MPEP 2113.

Further, with respect to claims 27 and 28 it is the Examiner's position that applicants' claim language, "A fluid device" encompasses "a nozzle of a gas turbine" taught by Nakamura.

4. Claims 23, 24, 29, 30, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dong et al. (Dong, US Patent No. 4,911,768).

Dong teaches a nickel base hard facing alloy having a composition that overlaps the alloy recited in applicants' claims (column 2, lines 5 to 20 and 52 to 57). Dong also teaches a specific example alloy that is encompassed by applicants' claims (column 3, the table, Alloy No. 3). Dong teaches that the alloy contains carbides (column 2, lines 21 and 42 and column 3, lines 15 to 27). Dong also teaches that the alloy can be used in valves (column 1, lines 58 to 62).

The claims and Dong differ in that Dong does not teach the process steps recited in applicants' claims and is silent with respect to the coefficient of friction, microstructure of the carbides and hardness of the disclosed alloys.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the specific example alloy composition taught by Dong are encompassed by the instant claims. In view of this, Dong's alloys would be expected to possess all the same properties as recited in the instant claims including the coefficient of friction, microstructure of the carbides and hardness recited in the instant claims, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' *In re Spada*, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

With respect to the process steps recited in the claims it is the Examiner's position that, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the process limitations recited in the instant product by process claims do not necessarily lend patentability to the claimed product, MPEP 2113.

Further, with respect to claims 35 and 36 it is the Examiner's position that these claims which recite that the claimed alloy is joined with a base metal encompasses the hard facing utility taught by Dong.

Further, with respect to claims 29 and 30 it is the Examiner's position that applicants' claim language, "A fluid device" encompasses the valves taught by Dong (column 1, lines 58 to 62).

Response to Arguments

3. Applicant's arguments filed November 12, 2004 have been fully considered but they are not persuasive.

Applicants' arguments that the claimed carbide distribution and grain size of 30 microns or less provides the alloys with "greatly improved properties" (remarks, page 5) are not persuasive. Applicants have not provided any evidence to support their allegation that the claimed distribution and grain size of 30 microns or less provides the alloys with "greatly improved properties" "It is well settled that unexpected results must be established by factual evidence. Mere argument or conclusory statements in the specification do not suffice." In re Deblauwe, 222 USPQ 191, 196 (Fed. Cir. 1984). Mere lawyer's arguments and conclusory statements in the specification, unsupported by objective evidence, are insufficient to establish unexpected results." In re Wood, Whittaker, Stirling and Ohta, 199 USPQ 137, 140 (CCPA 1978).

Applicants' arguments that the references do not teach plastic hot working are not persuasive. As set forth in the statement of the rejections, with respect to the

process steps recited in the claims, it is the Examiner's position that, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the process limitations recited in the instant product by process claims do not necessarily lend patentability to the claimed product, MPEP 2113.

ONCE A PRODUCT APPEARING TO BE SUBSTANTIALLY IDENTICAL IS FOUND AND A 35 U.S.C. 102/103 REJECTION MADE, THE BURDEN SHIFTS TO THE APPLICANT TO SHOW AN UNOBlVIOUS DIFFERENCE

“The Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature” than when a product is claimed in the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983)

Applicants have not provided any evidence to establish that the claimed alloy actually is different than the prior art alloys having compositions that are encompassed by the instant claims.

Applicants' argument that each of Ohriner and Dong teach eutectic carbide that is continuously distributed is not persuasive. Applicants have not set forth what the basis is for this conclusion. For example, where in each of these references is it disclosed that the eutectic carbide is continuously distributed.

4. Applicants' arguments that none of the references disclose an alloy having the toughness, erosion-resistivity and low coefficient of friction with excellent wear resistance as provided in the present invention or that the alloy is for a corrosion-resisting and wear-resisting member that slides over other members are not persuasive. The alloy properties of corrosion resisting and wear resisting are recited in the preamble of the applicants' claims. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). In response to applicant's argument that the alloy is for a corrosion-resisting and wear-resisting member that slides over other members, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

As set forth in the statement of each of the rejections, in view of the fact that each of the references teaches specific example alloys containing eutectic carbides and having alloy compositions that are encompassed by the instant claims, it would be

expected that the alloys taught by the references would possess all the same properties as recited in the instant claims including the coefficient of friction, microstructure of the carbides and hardness recited in the instant claims, *In re Best*, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, *In re Best*, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' *In re Spada*, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

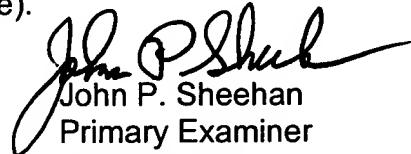
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John P. Sheehan
Primary Examiner
Art Unit 1742

jps